

## Evaluation of the Storm Vulnerability of Two Ship Routes in the North Atlantic

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### ABSTRACT

*The aim of this study is to assess the vulnerability of two ship routes that cross the North Atlantic Ocean between Europe and the USA, to storm events. For the characterization of the situations of extreme storms in particular, it is usual to use an Eulerian approach in which only assess the local conditions of waves, however, a Lagrangian approach the same phenomenon can be achieved monitoring the characteristics of each storm since their training to the dissipation. Were identified and characterized the North Atlantic storms formed during a period of 10 years between 1958 and 1967 using a Lagrangian approach. Each storm identified during this period was characterized using various physical parameters and in particular it was possible to determine their path and evolution of these characteristics over time. It was thus possible to identify the storms that have affected each of the routes, and which sections of the routes most vulnerable. There was also an assessment of the storms in question both at the inter-annual and seasonal distribution of his.*

**KEYWORDS:** sea waves, storm, routes, North Atlantic.

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